# ENERGY STAR®
# Residential New Construction Programs

## Historical Document

This document is provided for reference because it has been superseded by a more recent Version or Revision. Please find current program documents on the Program Requirements webpage.

Use of older Versions and Revisions, such as this document, are typically limited to homes and buildings with a permit date (or, for manufactured homes, a production date) prior to a specified date. Consult the Implementation Timeline table to assess whether a home or apartment is still eligible to be certified using this document.

For questions or more information, contact us at energystarhome@energystar.gov.

# ENERGY STAR Multifamily New Construction
# Caribbean Rater Field Checklist [1], Version 1 (Rev. 03)

Building Name: _____ Number of Units: _____ Permit Date: _____

Building Address: _____ City: _____ State: _____

| HVAC System [3] | Must Correct | Rater Verified [4] | N/A [5] |
|---|---|---|---|
| **1. Dwelling-Unit & Common Space Mechanical Vent. Systems ("Vent Systems") [6] & Inlets in Return Duct [7]** (National MFNC HVAC Design Report Item # indicated in parenthesis) | | | |
| 1.1 Ventilation manufacturer & model number on installed equipment matches either of the following (check box): [8] ☐ National MFNC HVAC Design Report ☐ Written approval received from designer | ☐ | ☐ | - |
| 1.2 Rater-measured ventilation rate is within either ± 15 CFM or ±15% of dwelling unit design values (2.7), and meets or exceeds rates required by ASHRAE 62.2-2010. [9] | ☐ | ☐ | - |
| 1.3 Measured ventilation rate is within either ± 15 CFM or ±15% of common space design values (2.9), and meets or exceeds rates required by ASHRAE 62.1-2010 (2.8). [10, 11] | ☐ | ☐ | - |
| 1.4 A ventilation override control installed and also labeled if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment). Townhouses only: In addition, the ventilation override control installed must be readily accessible to the occupant. | ☐ | ☐ | ☐ |
| 1.5 For any outdoor air inlet connected to a ducted return of the dwelling unit HVAC system (Complete if present; otherwise check "N/A"): [7] | | | ☐ |
| 1.5.1 Controls automatically restrict airflow using a motorized damper during vent. off-cycle and occupant override. [12] | ☐ | ☐ | - |
| 1.5.2 Rater-measured vent. rate is ≤ 15 CFM or 15% above design value at highest HVAC fan speed. Alt. in Fn. 12.[13] | ☐ | ☐ | - |
| 1.6 If located in the dwelling unit, system fan rated ≤ 3 sones if intermittent, ≤ 2 sones if continuous, or exempted. [14] | ☐ | ☐ | - |
| 1.7 If dwelling-unit Vent System controller operates the dwelling unit HVAC fan, then HVAC fan operation is intermittent and either the fan type is ECM / ICM (4.12), or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. [15] | ☐ | ☐ | ☐ |
| 1.8 In-unit bathroom fans or in-line fans are ENERGY STAR certified if used as part of the dwelling-unit mechanical ventilation system. [16] | ☐ | ☐ | ☐ |
| 1.9 If central exhaust fans, ≤ 1 HP, are installed as part of the dwelling-unit mechanical ventilation system, then they are direct-drive, ECM, with variable speed controllers. If > 1 HP, their motors meet or exceed efficiency standards for NEMA Premium™ motors. | ☐ | ☐ | ☐ |
| 1.10 Air inlet locations (Complete if ventilation air inlet locations were installed (2.23, 2.24); otherwise check "N/A"): [17, 18] | - | - | ☐ |
| 1.10.1 Inlet(s) pull ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit. | ☐ | ☐ | - |
| 1.10.2 Inlet(s) are ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof. [19] | ☐ | ☐ | - |
| 1.10.3 Inlet(s) are provided with rodent / insect screen with ≤ 0.5 inch mesh. | ☐ | ☐ | - |
| **2. Local Mechanical Exhaust** (National MFNC HVAC Design Report Item # indicated in parenthesis) | | | |
| **Dwelling Unit Mechanical Exhaust -** In each dwelling unit kitchen and bathroom, a system is installed that exhausts directly to the outdoors and meets one of the following Rater-measured airflow and manufacturer-rated sound level standards: [9, 20] | | | |

| Location | | Continuous Rate | Intermittent Rate [21] | | | |
|---|---|---|---|---|---|---|
| 2.1 Kitchen | Airflow | ≥ 5 ACH, based on kitchen volume [22, 23] | ≥ 100 CFM and, if not integrated with range, also ≥ 5 ACH based on kitchen volume [22, 23, 24] | ☐ | ☐ | - |
| | Sound | Recommended: ≤ 1 sone | Recommended: ≤ 3 sones | | | |
| 2.2 Bathroom | Airflow | ≥ 20 CFM | ≥ 50 CFM | ☐ | ☐ | - |
| | Sound | Required: ≤ 2 sones | Recommended: ≤ 3 sones | | | |

| | | | |
|---|---|---|---|
| **Common Space [2] and Garage Mechanical Exhaust** | | | |
| 2.3 Measured exhaust rates are ≥ ASHRAE 62.1-2010 rates (2c). [10] | ☐ | ☐ | ☐ |
| 2.4 Where a garage exhaust ventilation system is installed, it is equipped with controls that sense CO and NO2. | ☐ | ☐ | ☐ |
| **3. Heating & Cooling Equipment** | | | |
| 3.1 HVAC manufacturer & model number on installed equipment matches either of the following (check box): [8] ☐ National MFNC HVAC Design Report (4.6-4.9 & 4.25-4.26) ☐ Written approval received from designer | ☐ | ☐ | ☐ |
| **4. Duct Quality Installation -** *Applies to Heating, Cooling, Ventilation, Exhaust, & Pressure Balancing Ducts, Unless Noted in Footnote* | | | |
| 4.1 Ductwork installed without kinks, sharp bends, compressions, or excessive coiled flexible ductwork. [25] | ☐ | ☐ | ☐ |
| 4.2 All supply and return ducts in unconditioned space, including connections to trunk ducts, are insulated to ≥ R-6 [26] | ☐ | ☐ | ☐ |
| **5. Combustion Appliances** | | | |
| 5.1 Furnaces, boilers, and water heaters located within the building's pressure boundary are mechanically drafted or direct-vented. Alternatives in Footnote 29. [27, 28] | ☐ | ☐ | ☐ |

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| | | | |
|---|---|---|---|
| 5.2 Fireplaces located within the building's pressure boundary are direct-vented. [27, 28] | ☐ | ☐ | ☐ |
| 5.3 No unvented combustion appliances other than cooking ranges or ovens are located inside the building's pressure boundary. [27] | ☐ | ☐ | ☐ |
| **6. Thermal Comfort System** | **Must Correct** | **Rater Verified [4]** | **N/A [5]** |
| 6.1 Operable apertures provided that meet the specifications of the Caribbean Rater Design Review Checklist as follows: | | | |
| 6.1.1 Area, placement, & function is as specified in Items 4.1.1 through 4.1.3. | ☐ | ☐ | - |
| 6.1.2 Wing walls present if specified in Item 4.1.3. | ☐ | ☐ | - |
| 6.1.3 Insect screens provided per specifications in Item 4.1.4. | ☐ | ☐ | - |
| 6.1.4 Integral devices capable of holding components open provided per specifications in Item 4.1.5. | ☐ | ☐ | - |
| 6.1.5 Mechanically-attached door stop or similar device provided per specifications in Item 4.1.6. | ☐ | ☐ | - |
| 6.2 Solar gain through windows reduced per specs. in Item 4.2. | ☐ | ☐ | ☐ |
| 6.3 Ceiling fans (i.e., not just a junction box) installed per specs. in Item 4.3. | ☐ | ☐ | ☐ |
| **7. Air Sealing** (Unless otherwise noted below, "sealed" indicates the use of caulk, foam, or equivalent material) The following items must be verified in dwelling units and common spaces to reduce air leakage to exterior, adjacent buildings, or unconditioned spaces. | | | |
| 7.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other penetrations to unconditioned space sealed, with blocking / flashing as needed. | ☐ | ☐ | ☐ |
| 7.2 Rough opening around windows & exterior doors sealed. [31] | ☐ | ☐ | ☐ |
| 7.3 Assemblies that separate attached garages from occupiable space sealed and, also, an air barrier installed and sealed at floor cavities aligned with these walls. [32] | ☐ | ☐ | ☐ |
| 7.4 Doors adjacent to unconditioned space (e.g., attics, garages, basements, unconditioned living space) or ambient conditions made substantially air-tight with doorsweep and weatherstripping or equivalent gasket. | ☐ | ☐ | ☐ |
| 7.5 The gap between the common wall (e.g., the drywall shaft wall) and the structural framing between units sealed at all exterior boundaries. | ☐ | ☐ | ☐ |
| 7.6 Doors serving as a unit entrance from a corridor/stairwell made substantially air-tight with doorsweep and weatherstripping or equivalent gasket. | ☐ | ☐ | ☐ |
| **8. Solar Water Heating System** | | | |
| 8.1 If system is installed in order to comply with Measure A of the Caribbean Program Requirements, system is Solar Rating & Certification Corporation (SRCC) OG-300 certified and has a Solar Fraction ≥ 87%. If system was rated without a backup water heater, then backup water has not been installed. [33] | ☐ | ☐ | ☐ |
| **9. Mini-Split HVAC System Pre-Installation Details** | | | |
| 9.1 For a unit to be certified in the Caribbean, if a mini-split HVAC system will <u>not</u> be installed in the bedrooms at the time of certification, then the following details shall be included so that a mini-split HVAC system may be installed more easily after certification. This Item applies even if a PTAC is installed. If a mini-split HVAC system will be installed at the time of certification, then check "N/A". ☐ N/A | | | |
| 9.1.1 A wall-mounted junction box installed at code height within the designated area for the condensing unit along with electrical conduit from the junction box to the main electric panel board for the dwelling. | ☐ | ☐ | ☐ |
| 9.1.2 A 3" pipe sleeve installed through the exterior wall, for future power, communication, and refrigerant line connections between the area designated for the condensing unit and fan-coil units. | ☐ | ☐ | ☐ |
| 9.1.3 If the designated location of the wall-mounted mini-split fan-coil units is on an interior wall, then a 1" condensate drain line installed with a point of connection at the fan-coil units and that terminates in storm water lines or outdoors, and insulated with 1/2" thick elastomeric or equivalent insulation. | ☐ | ☐ | ☐ |

| **Other** | **Must Correct** | **LP Verified [30]** | **Rater Verified [4]** | **N/A [5]** |
|---|---|---|---|---|
| **10. Domestic Hot Water** | | | | |
| 10.1 For in-unit storage water heaters, AHRI Certificate confirms the presence of a heat trap. | ☐ | - | ☐ | ☐ |
| 10.2 Rater-measured delivery temperatures at faucets do not exceed 125°F. [34] | ☐ | - | ☐ | - |
| **11. Lighting** | | | | |
| 11.1 Common Space [2] Lighting Controls: | | | | |
| 11.1.1 All common spaces [2] (including shared garages), except the building lobby, mechanical equipment rooms, and where automatic shutoff would endanger the safety of occupants, have occupancy sensors or automatic bi-level lighting controls installed and operation has been verified. [35] | ☐ | ☐ | ☐ | ☐ |
| 11.2 Exterior lighting controls: Fixtures, including parking lot fixtures, must include automatic switching on timers or photocell controls except fixtures intended for 24-hour operation, required for security, associated with the electric meter for an individual dwelling unit. | ☐ | ☐ | ☐ | ☐ |
| 11.3 Common Spaces [2] and Garages: 90% of lighting fixtures are integrated LED fixtures or contain LED lamps. See Footnote 36 for alternate options. | ☐ | ☐ | ☐ | ☐ |

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| 12. Whole Building Energy Consumption Data Acquisition Strategy | Must Correct | Rater Verified [4] | N/A [5] |
|---|---|---|---|
| 12.1 For buildings 50,000 ft$^2$ and larger, a strategy that enables the collection of monthly or annual building-level energy consumption data (electricity, natural gas, chilled water, steam, fuel oil, propane, etc.) has been confirmed. [39] | ☐ | ☐ | ☐ |

Rater Name: _____ Rater Pre-Drywall Inspection Date(s): _____ Rater Initials: _____

Rater Company Name: _____

Rater Name: _____ Rater Final Inspection Date(s): _____ Rater Initials: _____

Rater Company Name: _____

Licensed Professional: _____ LP Inspection Date(s): _____ LP Initials: _____

# ENERGY STAR Multifamily New Construction
# Caribbean Rater Field Checklist Footnotes, Version 1 (Rev.03)

**Footnotes:**

1. This Checklist applies to all dwelling units, sleeping units, common spaces [2], and garages (open or enclosed) in the building being certified, and where specified, parking lots. These requirements do not apply to parking garages or lots where the cost of the energy use of the parking garage or lot is not the responsibility of the Builder/Developer, Building Owner or Property Manager. This Checklist does not apply to commercial or retail spaces. This Checklist does not apply to common spaces [2] that are located in buildings on the property without any dwelling or sleeping units. A 'sleeping unit', as defined by ANSI / RESNET / ICC 301, refers to a room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Where the term 'dwelling unit' is used in this Checklist, the requirement is also required of 'sleeping' units. The term 'building' refers to a structure that encompasses dwelling/sleeping units and (if present) common spaces, sharing one or more of the following attributes: a common street address, a common entrance or exit, central/shared mechanical systems, or structurally interdependent wall or roof systems. Attached structures such as townhouses and 4-story two-unit structures (commonly referred to as "2-over-2s") may be considered separate buildings if they are divided by a vertical fire separation wall from the foundation to the roof sheathing and share none of the other attributes listed above. A skyway or a breezeway that connects two structures is not considered a common entrance or exit.
2. The term 'common space' refers to any spaces in the building being certified that serve a function in support of the residential part of the building that is not part of a dwelling or sleeping unit. This includes spaces used by residents, such as corridors, stairs, lobbies, laundry rooms, exercise rooms, residential recreation rooms, and dining halls, as well as offices and other spaces used by building management, administration, or maintenance in support of the residents.
3. This section of the Checklist is designed to meet the requirements of ASHRAE 62.1-2010 or later, ASHRAE 62.2-2010 or later, and ANSI / ACCA's 5 QI-2015 protocol, thereby improving the performance of HVAC equipment in new multifamily buildings when compared to multifamily buildings built to minimum code. However, these features alone cannot prevent all ventilation, indoor air quality, and HVAC problems, (e.g., those caused by a lack of maintenance or by occupant behavior). Therefore, this Checklist is not a guarantee of proper ventilation, indoor air quality, or HVAC performance.
4. The term 'Rater' refers to the person(s) completing the third-party verification required for certification. The person(s) shall: a) be a Certified Rater, Approved Inspector, as defined by ANSI / RESNET / IECC 301, or an equivalent designation as determined by a Home Certification Organization (HCO) or Multifamily Review Organization (MRO); and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/mftraining.
5. The column titled "N/A," which denotes items that are "not applicable," should be used when the checklist Item is not present in the building or conflicts with local requirements.
6. As defined by ANSI / RESNET / ICC 301-2019, a Dwelling Unit Mechanical Ventilation System is a ventilation system consisting of powered ventilation equipment such as motor-driven fans and blowers and related mechanical components such as ducts, inlets, dampers, filters and associated control devices that provides dwelling-unit ventilation at a known or measured airflow rate.
7. Item 1.5 applies to any outdoor air inlet connected to a ducted return of the dwelling unit HVAC system, regardless of its intended purpose (e.g., for ventilation air, make-up air, combustion air). This Item does not apply to HVAC systems without a ducted return.
8. If installed equipment does not match the National HVAC Design Report, then prior to certification the Rater shall obtain written approval from the designer (e.g., email, updated National HVAC Design Report) confirming that the installed equipment meets the requirements of the National HVAC Design Report.
9. The dwelling-unit ventilation air flows and local exhaust air flows shall be determined and documented by a Rater using ANSI / RESNET / ICC 380 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO or MRO that the building is being certified under. In Item 1.2, the dwelling-unit ventilation rates required by ASHRAE 62.2-2010 can be calculated using the Multifamily Workbook or the following equation: 0.01 x Conditioned Floor Area + 7.5 x (number of bedrooms + 1). For sleeping units, the following equation may be used: 0.01 x Conditioned Floor Area + 7.5 x (number of beds). Where local codes do not permit dwelling-unit ventilation to exceed ASHRAE 62.2-2010 rates, Rater-measured ventilation rate is permitted to be 0-15 CFM less than rates required by ASHRAE 62.2-2010.
10. While common spaces are not under the scope of ANSI / RESNET / ICC 380, the ventilation air flow and exhaust air flows in common spaces shall be measured in accordance with the procedures in ANSI / RESNET / ICC 380. The air flows may be measured by a Rater or a certified air-balancing contractor under the observation of a Rater. Where a system provides supply air that is a mix of return and outdoor air, and not 100% outdoor air, the outdoor air intake airflow shall be measured and compared to the total supply airflow to determine percentage of outdoor air supplied. This percentage shall be applied to airflow measured at supply registers to determine outdoor air provided for comparison to design airflow rates.
11. For permits on or before 01/01/2024, where outdoor air is supplied via a PTAC or PTHP, in lieu of measurement, the design CFM shall meet or exceed the ventilation rates required by ASHRAE 62.1-2010 and the space served by the PTAC or PTHP shall have at least one operable window. For permits after 01/01/2024, both the runtime and measurement of outdoor air through these systems will be required to demonstrate compliance with ASHRAE 62.1-2010 or alternative ventilation system specified (e.g., ducted supply).
12. For example, if an outdoor air inlet connected to a ducted return is used as a dedicated source of outdoor air for an exhaust ventilation system (e.g., bath fan), the outdoor airflow must be automatically restricted when the exhaust fan is not running and in the event of an override of the exhaust ventilation system.

    In dwelling / sleeping units in multifamily buildings, but not townhouses, automatic restriction of airflow is exempted if a manual shutoff damper is used with a continuous exhaust ventilation system and is readily-accessible, labeled as the override, and not used as a balancing damper.
13. When assessing the ventilation rate, the highest HVAC fan speed applicable to ventilation mode shall be used (e.g., if the inlet only opens when the HVAC is in 'fan-only' mode, then test in this mode). If the inlet has a motorized damper that only opens when the local mechanical kitchen exhaust is turned on, then testing is not required.

    When required, the ventilation airflow through the inlet shall be measured and documented by a Rater using ANSI / RESNET / ICC 380 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO or MRO that the building is being certified under. As an alternative, measurement of the outdoor airflow can be waived if a Constant

Airflow Regulating (CAR) damper with a manufacturer-specified maximum flow rate no higher than 15 CFM or 15% above the ventilation design value is installed on the inlet.

14. Dwelling-unit mechanical ventilation fans shall be rated for sound at no less than the airflow rate in Item 2.7 of the National HVAC Design Report. Fans exempted from this requirement include HVAC air handler fans, remote-mounted fans, and intermittent fans rated ≥ 400 CFM. To be considered for this exemption, a remote-mounted fan must be mounted outside the habitable spaces, bathrooms, toilets, and hallways and there shall be ≥ 4 ft. ductwork between the fan and intake grill. Per ASHRAE 62.2-2010, habitable spaces are intended for continual human occupancy; such space generally includes areas used for living, sleeping, dining, and cooking but does not generally include bathrooms, toilets, hallways, storage areas, closets, or utility rooms.
15. Note that the 'fan-on' setting of a thermostat would not be an acceptable controller because it would continuously operate the HVAC fan.
16. Bathroom fans with a rated flow rate ≥ 500 CFM and heat/energy recovery ventilation fans are exempted from the requirement to be ENERGY STAR certified.
17. Ventilation air inlets that are only visible via rooftop access are exempted from Item 1.10 and the Rater shall mark "N/A". The outlet and inlet of balanced ventilation systems shall meet these spacing requirements unless manufacturer instructions indicate that a smaller distance may be used. However, if this occurs the manufacturer's instructions shall be collected for documentation purposes.
18. Without proper maintenance, ventilation air inlet screens often become filled with debris. Therefore, EPA recommends, but does not require, that these ventilation air inlets be located so as to facilitate access and regular service by the building owner or maintenance staff.
19. Known contamination sources include, but are not limited to, stacks, vents, exhausts, and vehicles.
20. Continuous bathroom local mechanical exhaust fans shall be rated for sound at no less than the airflow rate in Item 2.2. Intermittent bathroom and both intermittent and continuous kitchen local mechanical exhaust fans are recommended, but not required, to be rated for sound at no less than the airflow rate in Items 2.1 and 2.2. Per ASHRAE 62.2-2010, an exhaust system is one or more fans that remove air from the building, causing outdoor air to enter by ventilation inlets or normal leakage paths through the building envelope (e.g., bath exhaust fans, range hoods, clothes dryers). Per ASHRAE 62.2-2010, a bathroom is any room containing a bathtub, shower, spa, or similar source of moisture.
21. An intermittent mechanical exhaust system, where provided, shall be designed to operate as needed by the occupant. Control devices shall not impede occupant control in intermittent systems.
22. Kitchen volume shall be determined by drawing the smallest possible rectangle on the floor plan that encompasses all cabinets, pantries, islands, peninsulas, ranges / ovens, and the kitchen exhaust fan, and multiplying by the average ceiling height for this area. In addition, the continuous kitchen exhaust rate shall be ≥ 25 CFM, per 2009 IRC Table M1507.3, regardless of the rate calculated using the kitchen volume. Cabinet volume shall be included in the kitchen volume.
23. Alternatively, the prescriptive duct sizing requirements in Table 5.3 of ASHRAE 62.2-2010 or later are permitted to be used for kitchen exhaust fans based upon the rated airflow of the fan at 0.25 IWC. If the rated airflow is unknown, ≥ 6 in. smooth duct shall be used, with a rectangular to round duct transition as needed. Guidance to assist partners with these alternatives is available at www.energystar.gov/newhomesguidance. As an alternative to Item 2.1, dwelling units are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3, if they are either a) Phius or PHI certified, or b) provide both dwelling-unit ventilation and local mechanical kitchen exhaust using a balanced system, and have a Rater-verified whole-building infiltration rate ≤ 1.0 ACH or ≤ 0.05 CFM50 per sq. ft. of Enclosure Area. 'Enclosure Area' is defined as the area of the surfaces that bound the volume being pressurized / depressurized during the test.
24. All intermittent kitchen exhaust fans must be capable of exhausting at least 100 CFM. In addition, if the fan is not part of a vented range hood or appliance-range hood combination (i.e., if the fan is not integrated with the range), then it must also be capable of exhausting ≥ 5 ACH, based on the kitchen volume.
25. Kinks are to be avoided and are caused when ducts are bent across sharp corners such as framing members. Sharp bends are to be avoided and occur when the radius of the turn in the duct is less than one duct diameter. Compression is to be avoided and occurs when flexible ducts in unconditioned space are installed in cavities smaller than the outer duct diameter and ducts in conditioned space are installed in cavities smaller than inner duct diameter. Ducts shall not include coils or loops except to the extent needed for acoustical control.
26. Item 3.2 does not apply to ducts that are a part of local mechanical exhaust and exhaust-only dwelling-unit ventilation systems. EPA recommends, but does not require, that all metal ductwork not encompassed by Section 3 (e.g., exhaust ducts, duct boots, ducts in conditioned space) also be insulated and that insulation be sealed to duct boots to prevent condensation.
27. The pressure boundary is the primary enclosure boundary separating indoor and outdoor air. For example, a volume that has more leakage to outside than to conditioned space would be outside the pressure boundary.
28. Per the 2009 International Mechanical Code, a direct-vent appliance is one that is constructed and installed so that all air for combustion is derived from the outdoor atmosphere and all flue gases are discharged to the outside atmosphere; a mechanical draft system is a venting system designed to remove flue or vent gases by mechanical means consisting of an induced draft portion under non-positive static pressure or a forced draft portion under positive static pressure; and a natural draft system is a venting system designed to remove flue or vent gases under nonpositive static vent pressure entirely by natural draft.
29. Naturally drafted equipment is only allowed if located in a space outside the pressure boundary, where the envelope assemblies separating it from conditioned space are insulated and air-sealed.
30. At the discretion of the Rater, a Licensed Professional (LP), (i.e., a Registered Architect or Professional Engineer in good standing and with a current license), may verify any of the items in Sections 4, 10, and 11 of this Checklist, where a checkbox is provided for "LP Verified". When exercised, the LP's responsibility will be formally acknowledged by the LP signing off on the checklist for the item(s) that they verified. However, if a quality assurance review indicates that Items have not been successfully completed, the Rater will be responsible for facilitating corrective action.
31. A continuous stucco cladding system sealed to windows and doors is permitted to be used in lieu of sealing rough openings with caulk or foam.

32. For dwelling or sleeping units adjacent to garages, EPA recommends, but does not require, carbon monoxide (CO) alarms installed in a central location in the immediate vicinity of each separate sleeping zone and according to NFPA 720.
33. Solar fraction shall be determined using the ICC-SRCC OG-300 Solar Water Heating System Certification Program's annual solar fraction rating ($SF_A$) for the rating location closest to the building and for the SRCC OG-300 Draw Pattern. A solar water heater system with a Solar Fraction ≥ 87% that has no backup water heater is permitted to be used. For the current OG-300 directory, visit https://solar-rating.org/directories/certified-companies/.
34. To measure the delivery temperature, turn the hot water at any faucet completely on and place a digital thermometer in the stream of water. Observe the thermometer and when no additional rise in temperature occurs after 10 seconds, confirm this temperature does not exceed 125°F.
35. For common spaces or shared garages where automatic lighting controls are not installed due to safety concerns associated with automatic lighting shutoff, the architect or engineer must provide the specific location(s) where this concern is applicable. The Rater shall retain a copy of the email or letter that documents the location(s) for their records and check the box in the "Rater Verified" column. This exemption does not apply to corridors or stairwells.
36. As an alternative to the efficiency requirements in Item 11.3, installed lighting may instead meet the following lighting power allowances. In common spaces (except garages), total installed lighting power for the combined common spaces must not exceed ASHRAE 90.1-2007 allowances for those combined spaces, using the Space-by-Space or Building Area Method. See Footnote 37 and 38 for allowances.

    In shared garages, installed lighting shall not exceed 0.24 W/ft$^2$.
37. Senior housing buildings can use the space-by-space allowances for 'facilities for the visually impaired' in ASHRAE 90.1-2016 Appendix G Table G3.7 for spaces used primarily by building residents. For example, 1.15 W/SF lighting power allowance may be used for the corridors in the baseline. To qualify for the increased allowance, the building must be designed to comply with the light levels in ANSI / IES RP-28 and must provide housing for seniors and/or people with special visual needs. Prescriptive Path dwelling unit overall in-unit lighting power density is permitted to be ≤ 1.3 W/SF, using 1.65 W/SF where lighting is not installed.
38. Lighting power density values from ASHRAE 90.1-2007 Section 9 for Space-by-Space Method for typical common spaces in multifamily properties are shown in the table below. Buildings following the Building Area method, the lighting power density is 0.7 W/ft$^2$. For spaces not shown, refer to ASHRAE 90.1-2007 Section 9.

| ASHRAE Space Type | Lighting Power Densities (W/ft$^2$) | ASHRAE Space Type | Lighting Power Densities (W/ft$^2$) | ASHRAE Space Type | Lighting Power Densities (W/ft$^2$) |
|---|---|---|---|---|---|
| Lobby / Elevator | 1.3 | Corridor / Transition | 0.5 | Office | 1.1 |
| Active Storage (e.g., trash chute / room, janitor closet) | 0.8 | Stairs - Active | 0.6 | Lounge / Recreation / Community Room / Computer Room | 1.2 |
| Inactive Storage (e.g., tenant storage) | 0.3 | Restroom | 0.9 | Electrical / Mechanical | 1.5 |
| Exercise Area / Room | 0.9 | Laundry Room | 1.3 | Workshop | 1.9 |

39. Building area shall be calculated according to Gross Floor Area as defined by ENERGY STAR Portfolio Manager, which specifies to measure from the outside surface of exterior walls and includes all areas inside the building and excludes parking areas. Refer to the ENERGY STAR Portfolio Manager Glossary for a complete definition. Strategies include: an agreement with the utility companies to provide the aggregated building-level data, in a spreadsheet format or directly through Portfolio Manager; OR evidence that securing signed utility data release forms will be a mandatory component of all lease agreements; OR installation of a building-level energy monitor, data acquisition system, or utility-owned energy meter. If an energy monitor is installed, the builder shall provide the building operator with the manufacturer's documentation and operations manual. EPA recommends, but does not require, that one of these strategies also be implemented in buildings 25,000-49,999 ft$^2$.